



Early British Trumpet Mouthpieces

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Early British Trumpet Mouthpieces

THIS survey has its origin in the fact that, of the nine known seventeenth-century British trumpets, at least seven, possibly eight, have survived with mouthpieces that are either original to or contemporary with the instruments.

Broadly speaking, the proof of this assertion lies in the physical attributes of the mouthpieces themselves, which are so unlike anything with which we are now familiar, and yet are so clearly inter-related in style, proportions and technical detail that we are encouraged in the belief that they offer the firmest direct evidence that has yet come to light on this much-discussed matter.

All of these instruments, excepting the missing Simon Beale of 1667, have now been examined, and complete data for the seven mouthpieces is assembled herein. These range in date from 1666 to c. 1700, the probable latest limit of William Bull's working life.

It is to be regretted that no comparable material survives for the eighteenth century so far as we know at present; but an abundance of nineteenth-century examples leaves no doubt at all that so long as the classic trumpet—natural or mechanized—in 6 ft F, crooking downwards, remained the standard orchestral instrument, the type of mouthpiece associated with it underwent very little modification. A sufficient number of these later mouthpieces has been examined to warrant the assumption that it represents a fair cross-section of the usage of contemporary players. The value of these findings moreover receives pretty solid affirmation from the fact that the elder Thomas Harper (1787–1853), the greatest British trumpeter of his time, published an exact record of his preferred mouthpiece, a full-size machine section drawing of which appeared in his *Instructions for the Trumpet*, c. 1835. Considering the celebrity that surrounds Harper's concert playing in all contemporary reports, this is a piece of first-hand evidence that no musicologist can afford to ignore. Harper's Handelian obbligati were played, it seems, on a mouthpiece which differed very little, if at all, in essential detail from those of the seventeenth century. There is nothing whatever about the Harper specification that would have dismayed Matthias Shore, nor is there any indication that his leanings were towards the small shallow cups and narrow *grains* so

beloved of the modern textbook whenever the word *clarino* is in context. It is an exceedingly robust affair, cast and machined from a solid hunk of metal, that must have weighed between 5 and 6 ozs in its finished state. The massive bowl, recommended by Harper 'as laying steady on the lips and not requiring so much pressure as a light one' has the same broad square rim as the seventeenth century favoured, with the cup fully concave, sharp-edged at the rim and tangential to the grain. The width of the cup, though slightly scaled-down to suit an F-based trumpet at $a' 440$ or above, instead of a D-C trumpet at $a' 415$, is as large as any of the nineteenth-century examples examined, while the grain diameter at 6 mm. is in the higher bracket for a mouthpiece of any age. Two further statements by Harper in connection with this mouthpiece are of significance here: first, that he had been using it for twenty years and, second, that it could be used for trumpets of every description. There is therefore nothing esoteric about it whatever—it is a plain exposition of the performance-practice of a leading British trumpeter in the early nineteenth century, and thus presents a valuable check upon the data here assembled.

* * *

The method adopted has been to borrow from Harper the idea of producing the series of section drawings that constitute the Appendix to this paper. The seven early mouthpieces that head the list (A–G) are also shown in profile and end (cup) elevation in Plates XIII–XVI, so that they are now fully recorded for the first time anywhere. The link between the seventeenth century and Harper's ideas is established by juxtaposing the mouthpiece of Bull No. 2 with his diagram from the *Instructions*, which has been re-drawn from the original (H). Two other mouthpieces of this type are shown (J, K). Another stage seems to have been reached in the series L–O, all with much thinner-walled bowls—a reaction, one suspects, by later players from Harper's ideals. Two of these mouthpieces are known to have been used with F valved trumpets in the mid-century. The remaining four (P–S) show, first the shortening of the shank and reduction of overall size as the long-tube trumpet gradually withdrew from the orchestral scene and reverted to its ancient military and ceremonial roles, while the last pair illustrate the blurred and compromised outlines imposed upon the trumpet mouthpiece by the practices of later players, under the influence of the cornet and of the higher-pitched trumpets in B \flat and A.

In all drawings the following measurements are appended: length, overall; of shank; of backbone. Depth of cup, diameter inside and outside of rim and of shank. Diameter of grain. The external decora-

tion which is so marked a feature of British mouthpieces has been faithfully reproduced in all cases.

The five mouthpieces associated with seventeenth-century *silver* instruments, *viz.* the Williamson, McCuir, Brock and Bull Nos 1 and 3, are in every way the most massive in the whole series and form a group apart in the similarity of their general proportions.

It seems impossible, from the evidence here advanced, to dogmatize on the old textbook subdivision of mouthpieces into *clarino* and *principale* types by their dimensions alone. Experiment suggests that the bigger the mouthpiece the better the sound, and that anyone determined to master the technique could acquire the ability to blow any note with any mouthpiece on any instrument. That he might do so with greater ease with one mouthpiece rather than with another is much more likely to be due to training, habit and physiognomy than to any *a priori* and immutable organological law. In any event, the range of variation, over a period of two-and-a-quarter centuries, is by no means as great as theorists would have us believe. The profiles reproduced in C. S. Terry's *Bach's Orchestra* (1932), p. 25 for instance, are quite ludicrous distortions of fact. Of far more significance are the factors they share in common, which show the continuing tradition of the classic trumpet from the pre-orchestral period to the time of its displacement by the modern short-tube instrument.

The closer scrutiny to which the seven early mouthpieces have now been subjected has given the opportunity to revise and correct where necessary some of the measurements published in previous papers, and enables their technology to be more particularly described.

MOUTHPIECES WITHOUT BACKBORE

The first point to emerge is that the Williamson mouthpiece, so far from being a somewhat haphazard restoration of a broken original, as described in *GSJ* XVI, p. 56, is in fact a perfectly normal representative of a totally unsuspected genre. The association of a sheet metal tubular 'shank' with a (presumably) cast and turned mouthpiece cup is not a piece of technology that the modern mind could have been expected to anticipate (Appendix, A). It means that this type of mouthpiece is virtually without a backbore in the modern sense, and that instead of expanding from the grain to the distal end, these thin-walled tubular shanks taper if anything very slightly the reverse way, within as without, while the lower part of the cup is formed into a tenon or spigot, brazed into the tube, the internal face being squared off so that the grain is shouldered outwards abruptly to the internal diameter of the shank.

Externally these mouthpieces have a rather plain appearance to the eye accustomed to more conventional turned mouldings and balusters, but the line is relieved by a small ornamental garnish at the base of the bowl, concealing the join between the two components. In their square-ended irruption into the main tube, these mouthpiece bowls are perhaps analogous with those of the cornett and serpent, which are demonstrably similar, and it is possible that this is a survival of a very ancient practice.

Confirmation of the normality of the Williamson mouthpiece is now provided by the two Scottish examples, both in perfect and untouched condition and almost exactly alike in essentials. Of these, the earlier, belonging to the McCuir trumpet, is of brass with a garnish of gilt metal. The long seam of the tubular shank is plainly visible, showing that it is in fact formed from sheet metal (Plate XV, *a*). Both this and the Brock have a small expansion at the bottom of the cylindrically-bored grain, but retain the shoulder (Appendix, C, D). The Brock mouthpiece is of solid silver, and its garnish carries the double rings already familiar on the Williamson, showing that these latter were not casually associated as I had formerly supposed, but are evidently placed there for a purpose (see Plates XIII, *b* and XV, *b*). A curious feature of this mouthpiece is that the internal shoulder appears to come exactly at the junction of the garnish with the bowl, with no spigot. It is not easy to explain this assembly by external examination alone.

MOUTHPIECES WITH BACKBORE

If the Dudley mouthpiece (Appendix, B) is contemporary (1666) with the instrument on which it is found, and has not suffered any subsequent remodelling, it provides evidence that the more modern conical backbore was already in use at the very beginning of our period. Nevertheless, its outward appearance (Plate XIV, *b*) is early, with a plain, straight-walled shank and acanthus-pattern garnish. The 'order' of the turned work on the bowl is also early in style, having affinities with the mouthpiece of the missing Beale trumpet (*GSJ* XVI, Pl. V, *a*) and the McCuir (Pl. XV, *a*) among its immediate company. Its puny size compared with the five huge silver mouthpieces (Appendix, A, C, D, E, F) need not in itself imply modernity, since its proportions, apart from the thickness and weight of the cup, are not unlike Bull No. 2 (Appendix, G, and Pl. XIV, *a*), the only other brass trumpet, and it is possible that these cheaper instruments were normally so equipped. It does, however, display the tapered backbore which is otherwise to be found only on the three undated Bull mouth-

pieces, that is to say, on the three latest in the series under consideration (Appendix, E, F, G). In view, however, of the comparatively short period covered by the series, it is perhaps reasonable to regard this mouthpiece as transitional between an earlier and a later practice; for it is quite evident that, once established, the tapered backbore came to stay and is of course present on every modern cup mouthpiece. It seems equally clear that with the introduction of the solid-bored shank the applied garnish was discarded and in its place there arose those conventions of columnar turning on the throat of the mouthpiece that were to reach a peak of elaboration in the early part of the nineteenth century. Nevertheless, we take the tapered backbore of the trumpet mouthpiece so much for granted nowadays that it is not easy to imagine what an extremely troublesome piece of technology it must have been before the advent of power lathes and precision cutting tools. It can have been no mean feat to drill out and ream to the depth of a Bull backbore (between about 70 and 80 mm.) on a taper of, say, 8.5 mm. to 5.0 mm., and it seems improbable that the process would have come into being except for a very good and pressing reason. That reason, it is suggested, must be connected in some way with the more precise centring of articulation in the higher register, as this came more and more to be used. It is perhaps not without significance that Purcell's free deployment of the solo trumpet, or of trumpets, or of trumpets and kettledrums as a unit of his festal scores becomes almost commonplace, after about 1690, by which time it is clear that the cone backbore had become an established technical fact. It is doubtful if contemporary players could, except with the greatest difficulty, have ventured up to the top C that Purcell occasionally calls for on a mouthpiece of the older pattern. A certain amount of experience in playing on the Williamson trumpet suggests that mouthpieces with the tubular shank are pre-orchestral and suitable only for signals or low-register fanfares of a *principale* type. Certainly the Williamson mouthpiece will produce a sound of incredible magnificence in this register, which it cannot match further up the scale. In fact, it might perhaps be said that if ever there were such a thing as a true *principale* mouthpiece, then this is it. The presence of the chain rings for keeping it tethered to the instrument when on 'field' duty supports this view: and indeed the trumpet was presented to the Queen's College with something approaching that function in mind.

The writer's thanks are due to Mr Ronald Lee, to the Provost and Fellows of the Queen's College, Oxford, to the Curators of the Ashmolean and London Museums for their kind assistance, and above



PLATE XIII Trumpet Mouthpieces (Scale: Full Size)
 (a) William Bull No. 3, Silver. (b) Anon., Silver (Williamson, 1666).
 Reproduced by courtesy of the Ashmolean Museum and of the Queen's College, Oxford.



PLATE XIV Trumpet Mouthpieces (Scale: Full Size)
 (a) William Bull No. 2, Brass. (b) Augustine Dudley, 1666, Brass and Silver.
 Reproduced by courtesy of the London Museum.



PLATE XV Trumpet Mouthpieces (Scale: Full Size)

(a) Thomas McCuir, 1669, Brass and Gilt (showing the brazed seam in the tubular shank). (b) Robert Brock, Silver.
(Photograph: Jocelyn Morris, reproduced by courtesy of the Most Honourable the Marquis of Bute.)

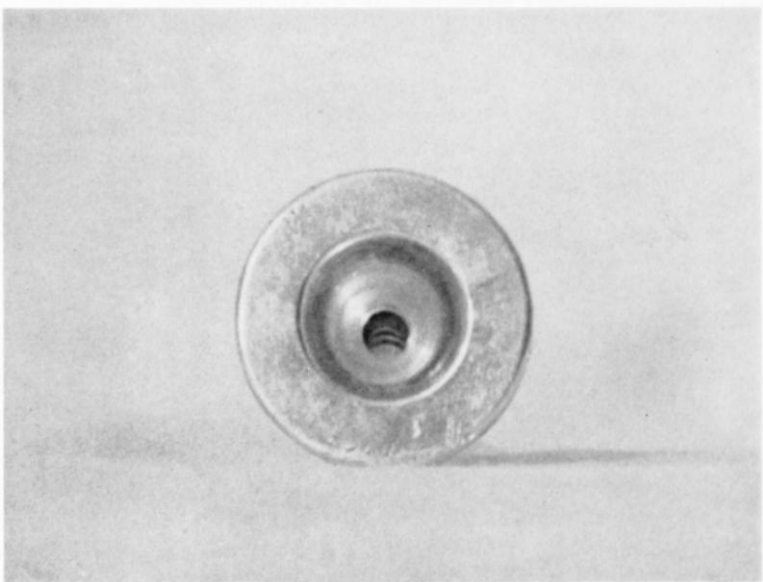


PLATE XVI *Trumpet Mouthpiece by William Bull, No. 1, Silver*
(*Photograph: John Eglan.*)

all to the Most Honourable the Marquis of Bute for his courtesy in granting access to the Scottish trumpets in his possession.

APPENDIX

The following section drawings are reproduced exactly full size. All essential measurements (in millimetres) are shown on each for easy reference.

Drawing

A The Queens' College, Oxford 'Williamson' trumpet. *Anon.*, presented in 1666. Engraved with College Arms (see Pl. XIII, *b*). Silver, with two carrying rings. Solid bowl, separate tubular shank with garnish. The largest and earliest extant British mouthpiece. Cup cavity and grain possibly enlarged. Weight 3.40 ounces.

B *Augustine Dudley*, London, 1666. London Museum (Pl. XIV, *b*). Brass, with silver-lined bowl and garnish. Taper backbore with slight cylindrical grain. Short mouthpiece, possibly of a type specifically associated with brass trumpets (*c.f.* G, below). Bowl and rim possibly modified.

C *Thomas McCuir*, Glasgow, 1669. The Marquis of Bute (Pl. XV, *a*). Brass; solid bowl, separate tubular shank, gilt garnish. Cylindrical grain, with slight end expansion.

D *Robert Brock*, Glasgow, n.d. The Marquis of Bute (Pl. XV, *b*). Silver with two carrying rings. Solid bowl, separate tubular shank, with garnish. Short cylinder grain with coned expansion.

E *William Bull*, London, n.d. (No. 3). Ashmolean Museum (Pl. XIII, *a*). Silver, with turned and moulded throat. Long, tapered backbore and long cylinder grain. ? in two parts. Weight 4.87 ounces.

F *William Bull*, London, n.d. (No. 1), formerly Ronald Lee (Pl. XVI). Silver, with turned and moulded throat. Long tapered backbore and long cylinder grain, shouldered internally. ? in two parts. The above two mouthpieces are similar in appearance and proportions. The instruments with which they are associated might, by their style, be separated in date by about 10/15 years. A whole-tone (C-basso) crook accompanies each instrument.

G *William Bull*, London, n.d. (No. 2). London Museum (Pl. XIV, *a*). Brass, with turned and moulded throat. Long tapered backbore, apparently in one piece. Short pattern similar to B, above, and also associated with a brass trumpet, which is probably earlier than either E or F (?1674). This instrument belonged at one time to Thomas Harper, junior, who seems to have inherited it from his father (d. 1853). The elder Harper appears to have been much influenced by seventeenth-century practices gleaned from his possession of early instruments, and it is here suggested that his celebrated 'improved' slide trumpet as made by Köhler is based on the proportions of seventeenth- and early eighteenth-century prototypes.

H *Thomas Harper* (senior), c. 1815. In his *Instructions for the Trumper* Harper published a full-size section drawing of the mouthpiece he had used 'for twenty years past' and recommended for use with 'Trumpets of every description'.

This has been redrawn from the original (BM.n.2202.c.), with measurements reduced to the form adopted in this paper. The general similarity of its proportions to those of G, above, will be apparent.

J *Anon.*, in the writer's possession. Found in the workshop of Messrs Henry Keat and Sons, possibly a legacy from the extinct firm of Köhler (now Swaine, Adeney and Brigg). This is clearly a mouthpiece of Harper's recommended model, with which it compares very closely. Brass, with silver mouthpiece rim. Weight: 5.75 ounces.

K *Butler*, London. Property of Joseph Wheeler. This silver mouthpiece is associated with the short-model slide trumpet by James Power, illustrated GSJ IX, Pl. III, formerly known as the 'Regent's Bugle'. It appears to be related to H and J, but shows some lightening of the weight of metal.

L, M Anonymous mouthpieces in the writer's possession.

N *Anon.*, property of Joseph Wheeler. All of brass with silver rims as on J, but considerably lightened in the bowls and with longer plain shanks. They probably represent the standard practice of the mid-nineteenth century. N was found associated with an early model 3-valve F trumpet by Charles Pace. An exactly similar mouthpiece is to be seen on a 4-fold E♭ cavalry trumpet by Köhler in the Rimmer Collection, Wigan. Both the instrument and the mouthpiece bear the same regimental mark, showing that they have always been associated. Average weight: 2.75 ounces.

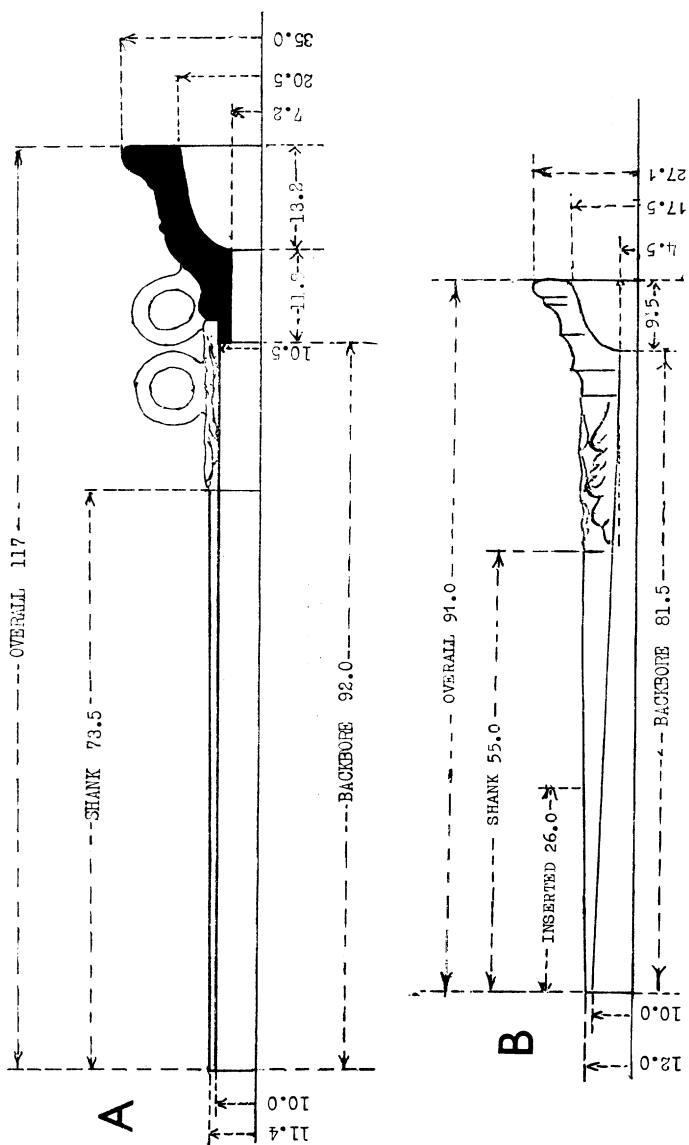
O *Köhler, Covent Garden*, in the writer's possession. Silver-plated mouthpiece of the foregoing pattern, but found associated with a plated F valved trumpet by Key & Co., 20 Charing Cross (No. 1338). Weight: 2.50 ounces.

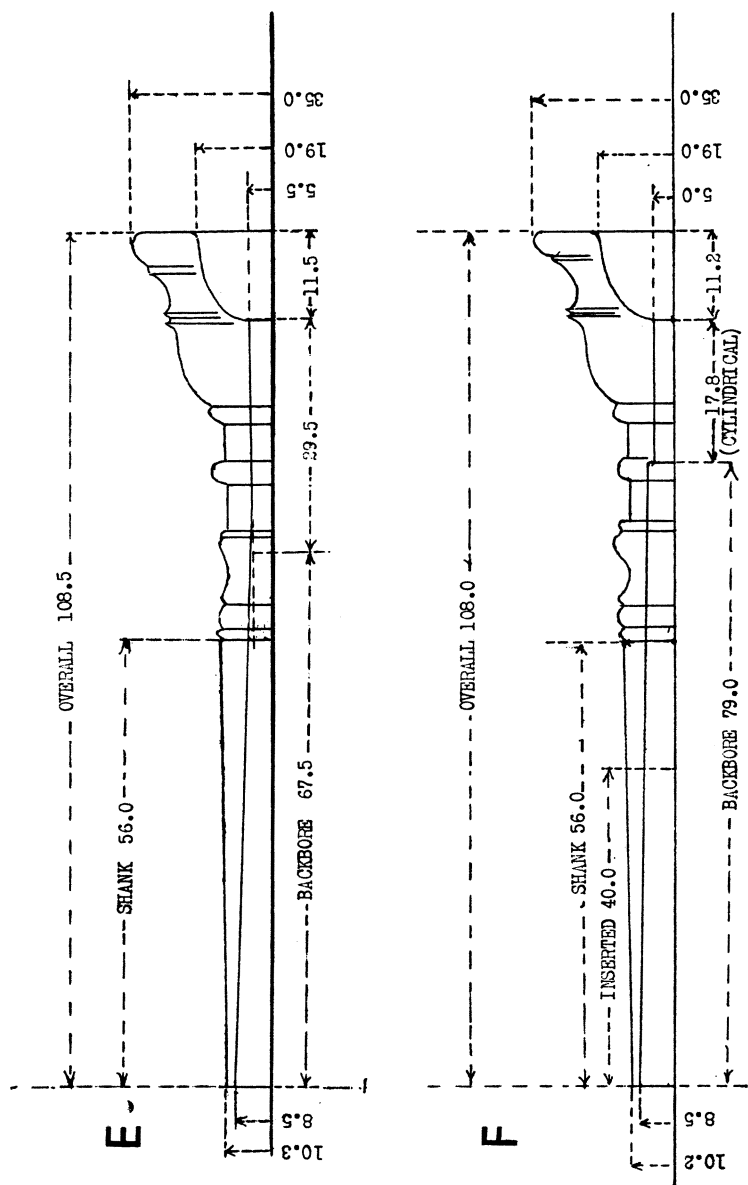
P *Higham*. Warwick County Museum. Silver-plated. With choke-bore grain. Associated with a 4-fold cavalry trumpet with ball, garnishes and garland, by Köhler, from Bristol.

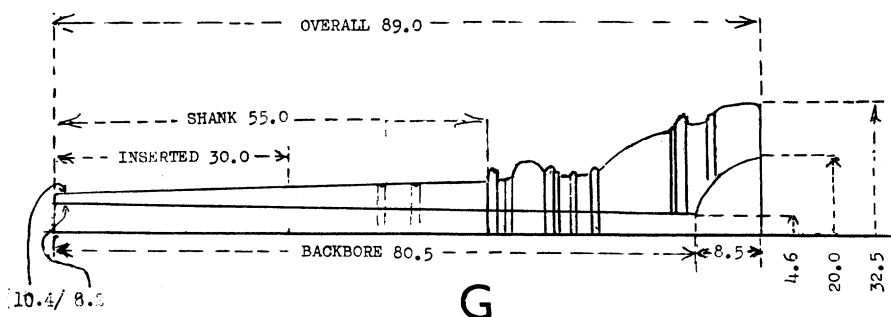
Q *Köhler*. Property of Joseph Wheeler. Brass with silver rim. Short duty trumpet model with choke-bore grain.

(The 'choke-bore' of the above mouthpieces consists of a conical widening of the grain at the exit from the bowl. In both cases it appears to impart a very smart, crisp attack to the sound produced.)

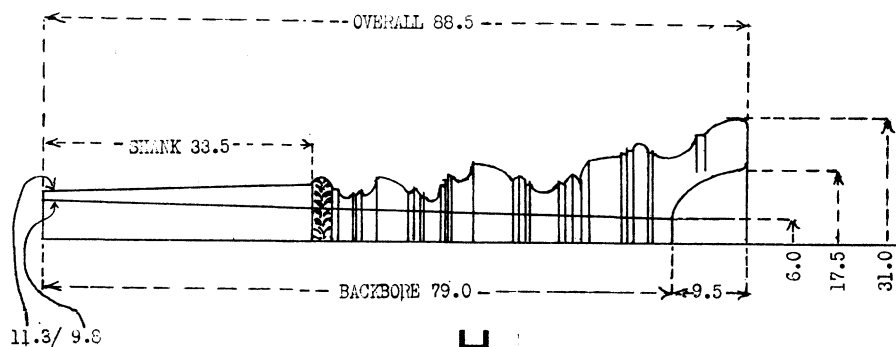
R, S *Anon.*, in the writer's possession. Silver-plated, with rounded rims and grains, showing the deterioration of the species. R found associated with one of a pair of plated 2-fold ceremonial fanfare trumpets by Keat, bearing the Arms of Edward Aldham Leatham, High Sheriff of Gloucester, 1891-1900. Weights: R, 2.75 ounces; S, 2.25 ounces.



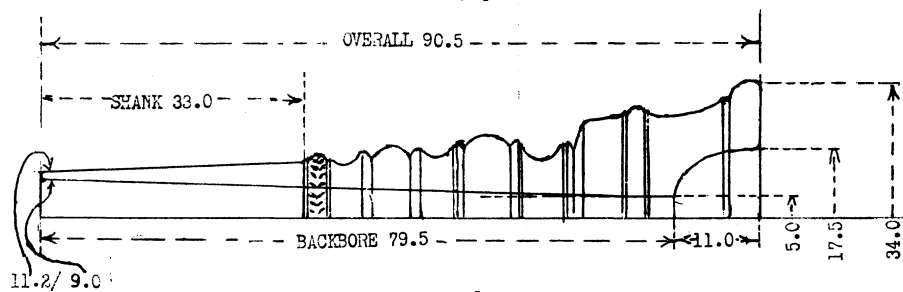




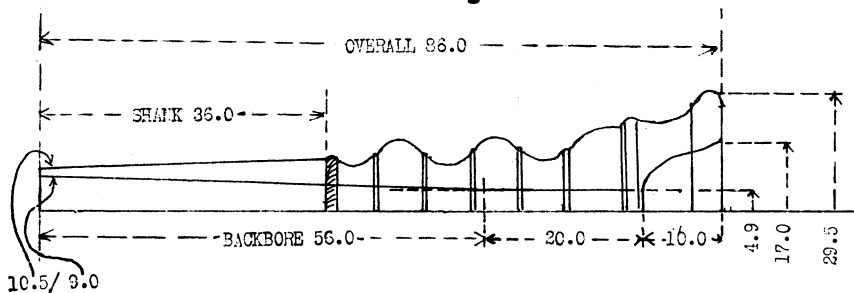
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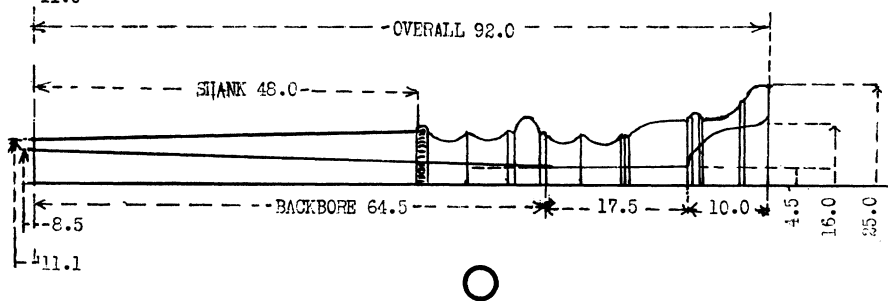
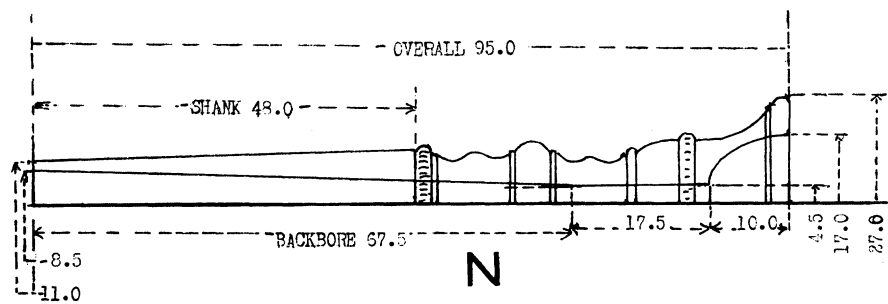
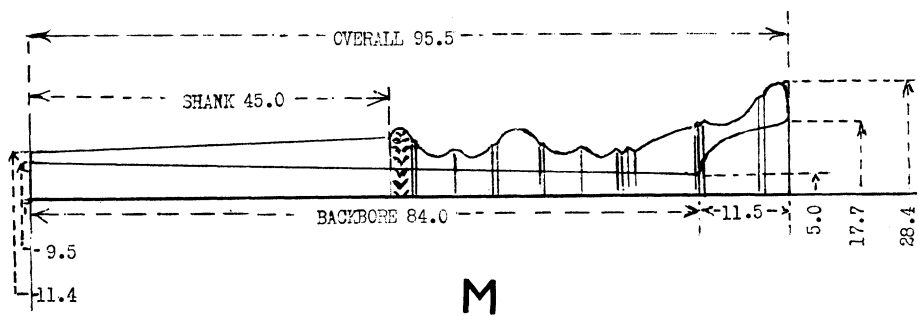
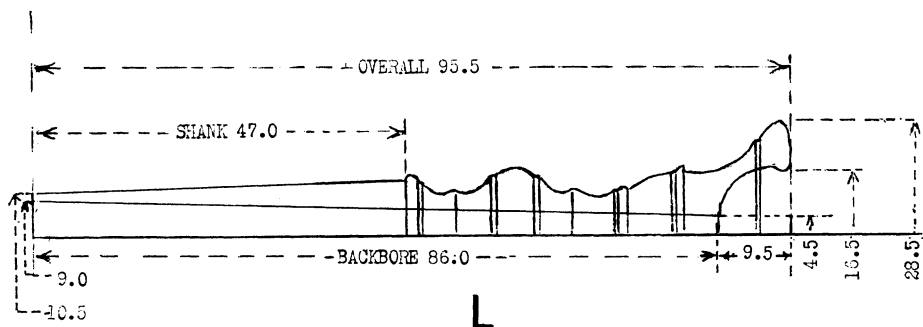
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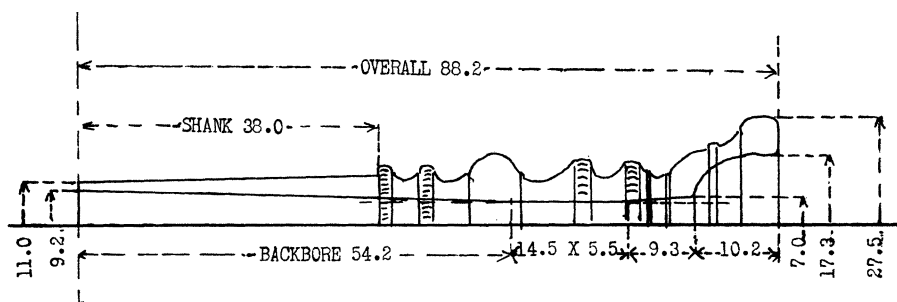


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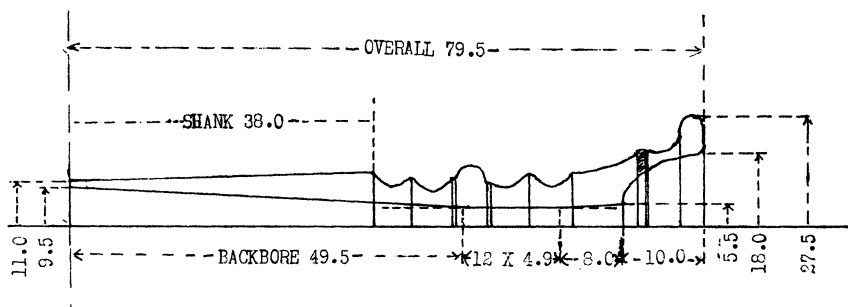


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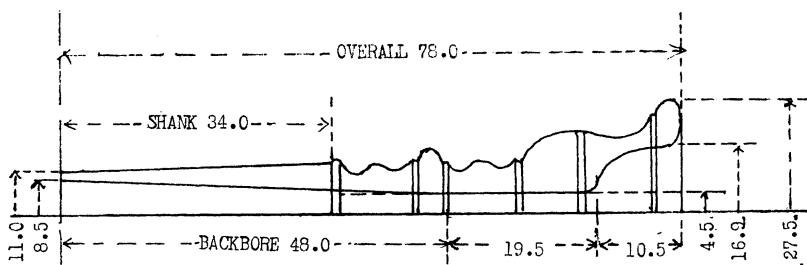




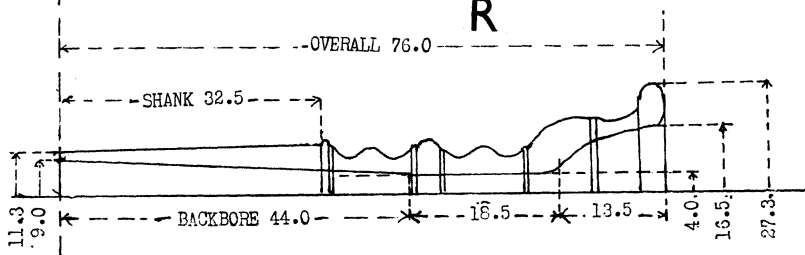
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Q



R



S